Chemical Analysis Report

SE-DIST-2020-09-17-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **SMP- Miami 2020 #1**
Request ID: **RQ-2020-09-14-48**
Customer: **SE-DIST**
Project ID: **SMP**

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This Report replaces the previous Report Serial Number: 0124899

Report Comment: Preparation date/time corrected for some analytes. No results modified from the previous report.

Revision certified by: Colin Wright, Program Administrator

Date Certified: 29-OCT-2020 13:30

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals and Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Hazel Street Key A **Collection Date/Time: 09/16/2020 11:20**

Field ID: G4SE0133 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2196654	EPA 200.7 Rev. 4.4	Chromium	8.0	I	ug/L	P387973	
		Iron	90	U	ug/L	P387800	
		Manganese	6.2	I	ug/L	P387800	
		Zinc	15	U	ug/L	P387800	
	EPA 200.8 Rev. 5.4	Aluminum	50	U	ug/L	P387800	
		Antimony	0.50	U	ug/L	P387800	
		Arsenic	3.11		ug/L	P387800	
		Cadmium	0.20	U	ug/L	P387800	
		Copper	13.1		ug/L	P387800	
		Lead	2.0	U	ug/L	P387800	
		Nickel	2.0	U	ug/L	P387800	
		Selenium	0.80	U	ug/L	P387800	
		Silver	0.10	U	ug/L	P387800	
		Thallium	1.0	U	ug/L	P387800	

Ref. Method and Comment:
EPA 200.8 Rev. 5.4: The copper result was confirmed in the undigested sample on 10/01/2020.

Sample Location: Pelican Cay Key A **Collection Date/Time: 09/16/2020 11:40**

Field ID: FB_09162020 Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2196644	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P387518	
	EPA 300.0 Rev. 2.1	Bromide	0.013	U	mg Br/L	P387642	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P387674	
	SM 2540 D-2011	TSS	2	U	mg/L	P387841	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P387680	
2196645	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P387580	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P387781	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P387650	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P387858	
	SM 5310 B-2011	Organic Carbon	0.71	I	mg C/L	P387836	
2196646	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P387521	
2196655	EPA 200.7 Rev. 4.4	Chromium	1.0	U	ug/L	P387800	
		Iron	30	U	ug/L	P387800	
		Manganese	1.0	U	ug/L	P387800	
		Zinc	5.0	U	ug/L	P387800	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P387800	
		Antimony	0.050	U	ug/L	P387800	
		Arsenic	0.050	U	ug/L	P387800	
		Cadmium	0.020	U	ug/L	P387800	
		Copper	0.40	U	ug/L	P387800	
		Lead	0.20	U	ug/L	P387800	
		Nickel	0.50	U	ug/L	P387800	
		Selenium	0.20	U	ug/L	P387800	
		Silver	0.010	U	ug/L	P387800	
		Thallium	0.10	U	ug/L	P387800	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Bromide: Batch relative percent difference and batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 5310 B-2011: The result was confirmed on 09/28/2020.

Sample Location: Pelican Cay Key A **Collection Date/Time: 09/16/2020 12:00**

Field ID: G4SE0134 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2196641	EPA 180.1 Rev. 2.0	Turbidity	0.79		NTU	P387518	
	EPA 300.0 Rev. 2.1	Bromide	43		mg Br/L	P387642	
	SM 2320 B-2011	Total Alkalinity	137		mg CaCO3/L	P387675	
	SM 2540 D-2011	TSS	3	U	mg/L	P387843	
	SM 4500 F-C-2011	Fluoride	0.92		mg F/L	P387681	
2196642	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P387578	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P387573	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P387603	
	EPA 365.1 Rev. 2.0	Total-P	0.008	I	mg P/L	P387918	
	SM 5310 B-2011	Organic Carbon	9.8		mg C/L	P387838	
2196643	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P387522	
2196653	EPA 200.7 Rev. 4.4	Chromium	7.9	I	ug/L	P387973	
		Iron	90	U	ug/L	P387800	
		Manganese	5.0	I	ug/L	P387800	
		Zinc	15	U	ug/L	P387800	
	EPA 200.8 Rev. 5.4	Aluminum	50	U	ug/L	P387800	
		Antimony	0.50	U	ug/L	P387800	
		Arsenic	1.94		ug/L	P387800	
		Cadmium	0.080	U	ug/L	P387800	
		Copper	1.6	U	ug/L	P387800	
		Lead	2.0	U	ug/L	P387800	
		Nickel	2.0	U	ug/L	P387800	
		Selenium	0.80	U	ug/L	P387800	
		Silver	0.040	U	ug/L	P387800	
		Thallium	1.0	U	ug/L	P387800	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Bromide: Batch relative percent difference and batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: C-111 West **Collection Date/Time: 09/16/2020 13:05**

Field ID: G4SE0127 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2196638	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P387518	
	EPA 300.0 Rev. 2.1	Chloride	50		mg Cl/L	P387638	
		Sulfate	1.7		mg SO4/L	P387640	
	SM 2120 B-2011	Color (true)	29		PCU	P387519	
	SM 2320 B-2011	Total Alkalinity	193	A	mg CaCO3/L	P387674	
	SM 2540 C-2011	TDS	296		mg/L	P387778	
	SM 2540 D-2011	TSS	2	I	mg/L	P387839	
	SM 4500 F-C-2011	Fluoride	0.21		mg F/L	P387680	
2196639	EPA 350.1 Rev. 2.0	Ammonia-N	0.21		mg N/L	P387580	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.93		mg N/L	P387781	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P387650	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P387858	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P387836	
2196640	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P387521	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P387518

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387800

Component	Result	Code	Units
Chromium	1.0	U	ug/L
Iron	30	U	ug/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387973

Component	Result	Code	Units
Chromium	1.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P387800

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387638

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387640

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387642

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387578

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387580

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387573

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387781

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387603

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387650

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387858

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387918

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387521

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387522

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: SM 2120 B-2011
Batch ID: P387519

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P387674

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2320 B-2011
Batch ID: P387675

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 C-2011
Batch ID: P387778

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P387839

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P387841

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P387843

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P387680

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P387681

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P387836

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: SM 5310 B-2011
Batch ID: P387838

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387800

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chromium	101		P	85 - 115
Iron	112		P	85 - 115
Manganese	108		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387973

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chromium	96.0		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P387800

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	105		P	85 - 115
Antimony	108		P	85 - 115
Arsenic	102		P	85 - 115
Cadmium	103		P	85 - 115
Copper	99.4		P	85 - 115
Lead	104		P	85 - 115
Nickel	101		P	85 - 115
Selenium	100		P	85 - 115
Silver	104		P	85 - 115
Thallium	105		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387638

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	95.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387640

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	94.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387642

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	99.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387578

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	100		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387580

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387573

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	103		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387781

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	101		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387603

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387650

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387858

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	108		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387918

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387521

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.3		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387522

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.8		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2120 B-2011
Batch ID: P387519

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	96.6		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P387674

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.4		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P387675

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.1		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P387680

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.1		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P387681

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.6		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P387836

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.8		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P387838

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.8		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387800

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2197649	Chromium	97.5	95.4	P/P	70 - 130
2197649	Iron	108	110	P/P	70 - 130
2197649	Manganese	105	103	P/P	70 - 130
2197649	Zinc	99.7	98.0	P/P	70 - 130

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387973

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2197292	Chromium	97.0	94.8	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P387800

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2197649	Aluminum	117	118	P/P	70 - 130
2197649	Antimony	117	117	P/P	70 - 130
2197649	Arsenic	117	118	P/P	70 - 130
2197649	Cadmium	110	106	P/P	70 - 130
2197649	Copper	116	115	P/P	70 - 130
2197649	Lead	108	109	P/P	70 - 130
2197649	Nickel	111	110	P/P	70 - 130
2197649	Selenium	120	118	P/P	70 - 130
2197649	Silver	102	103	P/P	70 - 130
2197649	Thallium	107	110	P/P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387638

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195911	Chloride	95.8		P	90 - 110
2196098	Chloride	95.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387640

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195911	Sulfate	95.0		P	90 - 110
2196098	Sulfate	95.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387642

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196574	Bromide	93.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387578

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196535	Ammonia-N	97.1	98.5	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387580

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196548	Ammonia-N	99.1	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387573

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196380	Kjeldahl Nitrogen	114	106	F/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387781

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196572	Kjeldahl Nitrogen	103	110	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387603

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196642	NO2NO3-N	100	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387650

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196639	NO2NO3-N	98.3	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387858

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196548	Total-P	106	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387918

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196642	Total-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387521

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196640	O-Phosphate-P	98.4	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387522

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196643	O-Phosphate-P	95.6	97.2	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P387680

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196638	Fluoride	96.2	96.9	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P387681

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196726	Fluoride	100	102	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P387836

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196931	Organic Carbon	98.8	102	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P387838

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2197570	Organic Carbon	96.3	97.0	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P387518

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196726	Turbidity	2.53	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387800

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2197649	Chromium	2.11	Spike	P	0 - 20
2197649	Iron	1.73	Spike	P	0 - 20
2197649	Manganese	2.05	Spike	P	0 - 20
2197649	Zinc	1.73	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387973

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2197292	Chromium	2.21	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P387800

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2197649	Aluminum	0.673	Spike	P	0 - 20
2197649	Antimony	0.196	Spike	P	0 - 20
2197649	Arsenic	0.770	Spike	P	0 - 20
2197649	Cadmium	3.85	Spike	P	0 - 20
2197649	Copper	0.942	Spike	P	0 - 20
2197649	Lead	0.566	Spike	P	0 - 20
2197649	Nickel	0.326	Spike	P	0 - 20
2197649	Selenium	1.44	Spike	P	0 - 20
2197649	Silver	0.915	Spike	P	0 - 20
2197649	Thallium	3.35	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387638

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195911	Chloride	0.0194	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387640

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195911	Sulfate	0.285	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196535	Ammonia-N	1.17	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387580

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196548	Ammonia-N	1.06	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387573

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196380	Kjeldahl Nitrogen	6.53	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387781

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196572	Kjeldahl Nitrogen	3.37	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387603

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196642	NO2NO3-N	0.477	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387650

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196639	NO2NO3-N	0.494	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196548	Total-P	1.83	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387918

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196642	Total-P	0.0247	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387521

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196640	O-Phosphate-P	2.21	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387522

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196643	O-Phosphate-P	1.59	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P387519

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196341	Color (true)	0.576	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P387674

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196638	Total Alkalinity	0.889	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P387675

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196726	Total Alkalinity	1.14	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P387778

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196276	TDS	6.67	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P387680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196638	Fluoride	0.463	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P387681

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196726	Fluoride	0.965	Spike	P	0 - 2.8

Quality Assurance Report
Precision

Reference Method: SM 5310 B-2011
Batch ID: P387836

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196931	Organic Carbon	2.20	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P387838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2197570	Organic Carbon	0.655	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A100980
Included Lab Sample IDs: 2196638

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Sulfate	99.8	99.9	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A101022
Included Lab Sample IDs: 2196641, 2196644

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	99.8	98.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A101059
Included Lab Sample IDs: 2196638, 2196641, 2196644

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: SM 2120 B-2011
Run ID: A101060
Included Lab Sample IDs: 2196638

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.1	99.4	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A101061
Included Lab Sample IDs: 2196640, 2196643, 2196646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.8	98.4	P/P	90 - 110
O-Phosphate-P	99.6	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A101085
Included Lab Sample IDs: 2196639, 2196642, 2196645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	101	P/P	90 - 110
Ammonia-N	93.0	91.1	P/P	90 - 110
Ammonia-N	94.4	95.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A101096
Included Lab Sample IDs: 2196642

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A101119
Included Lab Sample IDs: 2196639, 2196645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A101121
Included Lab Sample IDs: 2196642

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	108	102	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A101133
Included Lab Sample IDs: 2196638, 2196641, 2196644

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	100	P/P	90 - 110
Total Alkalinity	105	95.6	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A101133
Included Lab Sample IDs: 2196638, 2196641, 2196644

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	101	P/P	90 - 110
Fluoride	100	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A101190
Included Lab Sample IDs: 2196639, 2196645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.4	93.5	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A101194
Included Lab Sample IDs: 2196639, 2196642, 2196645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	99.3	P/P	90 - 110
Organic Carbon	101	99.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A101217
Included Lab Sample IDs: 2196653, 2196654, 2196655

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	100	99.1	P/P	90 - 110
Iron	105	106	P/P	90 - 110
Manganese	105	105	P/P	90 - 110
Zinc	100	100	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A101257
Included Lab Sample IDs: 2196639, 2196645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	95.5	95.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A101291
Included Lab Sample IDs: 2196653, 2196654

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	98.0	100	P/P	95 - 105

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A101296
Included Lab Sample IDs: 2196653, 2196654, 2196655

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	105	P/P	90 - 110
Aluminum	105	105	P/P	90 - 110
Antimony	108	108	P/P	90 - 110
Antimony	108	108	P/P	90 - 110
Arsenic	99.6	100	P/P	90 - 110
Arsenic	99.7	100	P/P	90 - 110
Cadmium	100	101	P/P	90 - 110
Cadmium	101	100	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Copper	97.7	101	P/P	90 - 110
Copper	99.6	110	P/P	90 - 110
Lead	101	102	P/P	90 - 110
Lead	102	101	P/P	90 - 110
Nickel	97.4	107	P/P	90 - 110
Nickel	97.9	99.9	P/P	90 - 110
Selenium	100	101	P/P	90 - 110
Selenium	101	105	P/P	90 - 110
Silver	102	101	P/P	90 - 110
Silver	102	102	P/P	90 - 110
Silver	103	102	P/P	90 - 110
Thallium	95.4	96.6	P/P	90 - 110
Thallium	96.6	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A101310
Included Lab Sample IDs: 2196642

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	93.8	93.2	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					2.53	
EPA 200.7 Rev. 4.4	Chromium	101	97.5	95.4			2.11
	Chromium	96.0	97.0	94.8			2.21
	Iron	112	108	110			1.73
	Manganese	108	105	103			2.05
	Zinc	101	99.7	98.0			1.73
EPA 200.8 Rev. 5.4	Aluminum	105	117	118			0.673
	Antimony	108	117	117			0.196
	Arsenic	102	117	118			0.770
	Cadmium	103	110	106			3.85
	Copper	99.4	116	115			0.942
	Lead	104	108	109			0.566
	Nickel	101	111	110			0.326
	Selenium	100	120	118			1.44
	Silver	104	102	103			0.915
	Thallium	105	107	110			3.35
EPA 300.0 Rev. 2.1	Bromide	99.3	93.9				
	Chloride	95.4	95.8	95.8		0.0194	
	Sulfate	94.6	95.0	95.5		0.285	
EPA 350.1 Rev. 2.0	Ammonia-N	100	97.1	98.5			1.17
	Ammonia-N	98.9	99.1	98.0			1.06
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	114	106			6.53
	Kjeldahl Nitrogen	101	103	110			3.37
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	100	99.8			0.477
	NO2NO3-N	99.0	98.3	98.8			0.494
EPA 365.1 Rev. 2.0	Total-P	108	106	108			1.83
	Total-P	106	101	101			0.0247
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.3	98.4	101			2.21
	O-Phosphate-P	99.8	95.6	97.2			1.59
SM 2120 B-2011	Color (true)	96.6				0.576	
SM 2320 B-2011	Total Alkalinity	99.4				0.889	
	Total Alkalinity	99.1				1.14	
SM 2540 C-2011	TDS					6.67	
SM 4500 F-C-2011	Fluoride	98.1	96.2	96.9			0.463
	Fluoride	98.6	100	102			0.965
SM 5310 B-2011	Organic Carbon	94.8	98.8	102			2.20
	Organic Carbon	97.8	96.3	97.0			0.655

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2196638, 2196641, 2196644
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2196653, 2196654, 2196655
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2196653, 2196654, 2196655
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2196641, 2196644
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2196638
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2196638
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2196639, 2196642, 2196645
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2196639, 2196642, 2196645
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2196639, 2196642, 2196645
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2196639, 2196642, 2196645

Reference Method Descriptions

Method	Description	Associated Samples
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2196640, 2196643, 2196646
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2196638
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2196638, 2196641, 2196644
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2196638
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2196638, 2196641, 2196644
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2196638, 2196641, 2196644
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2196639, 2196642, 2196645

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	09/17/2020			09/17/2020 15:06	Yen Ta	2196638, 2196641, 2196644
EPA 200.7 Rev. 4.4	09/17/2020	09/24/2020 13:15	Elliott D. Healy	09/25/2020 21:23	Betina Topolski	2196655
	09/17/2020	09/24/2020 13:15	Elliott D. Healy	09/25/2020 22:12	Betina Topolski	2196653
	09/17/2020	09/24/2020 13:15	Elliott D. Healy	09/25/2020 22:20	Betina Topolski	2196654
	09/17/2020	09/29/2020 15:30	Elliott D. Healy	09/30/2020 13:10	Betina Topolski	2196653
	09/17/2020	09/29/2020 15:30	Elliott D. Healy	09/30/2020 13:18	Betina Topolski	2196654
EPA 200.8 Rev. 5.4	09/17/2020	09/24/2020 13:15	Elliott D. Healy	09/30/2020 16:53	Alexander Thompson	2196655
	09/17/2020	09/24/2020 13:15	Elliott D. Healy	09/30/2020 18:32	Alexander Thompson	2196653
	09/17/2020	09/24/2020 13:15	Elliott D. Healy	09/30/2020 18:40	Alexander Thompson	2196654
	09/17/2020	09/24/2020 13:15	Elliott D. Healy	09/30/2020 20:11	Alexander Thompson	2196653
	09/17/2020	09/24/2020 13:15	Elliott D. Healy	09/30/2020 20:18	Alexander Thompson	2196654
EPA 300.0 Rev. 2.1	09/17/2020			09/18/2020 20:40	Lipi Saha	2196641
	09/17/2020			09/18/2020 20:57	Lipi Saha	2196644
	09/17/2020			09/19/2020 00:53	Lipi Saha	2196638
EPA 350.1 Rev. 2.0	09/17/2020			09/19/2020 12:55	Ping Hua	2196642
	09/17/2020			09/19/2020 14:23	Ping Hua	2196645
	09/17/2020			09/19/2020 15:09	Ping Hua	2196639
EPA 351.2 Rev. 2.0	09/17/2020	09/18/2020 17:20	David Boose	09/21/2020 16:40	Elliott Rodriguez	2196642
	09/17/2020	09/22/2020 11:40	David Boose	09/24/2020 19:07	Elliott Rodriguez	2196639
	09/17/2020	09/22/2020 11:40	David Boose	09/24/2020 19:09	Elliott Rodriguez	2196645
EPA 353.2 Rev. 2.0	09/17/2020			09/21/2020 10:00	Beverly Y. Sanders	2196642
	09/17/2020			09/22/2020 08:49	Beverly Y. Sanders	2196639
	09/17/2020			09/22/2020 08:56	Beverly Y. Sanders	2196645
EPA 365.1 Rev. 2.0	09/17/2020	09/25/2020 12:17	Yen Ta	09/29/2020 14:09	Lipi Saha	2196639
	09/17/2020	09/25/2020 12:17	Yen Ta	09/29/2020 14:10	Lipi Saha	2196645
	09/17/2020	09/28/2020 12:44	Yen Ta	10/01/2020 12:35	Lipi Saha	2196642
EPA 365.1 Rev. 2.0 dissolved	09/17/2020			09/17/2020 16:54	Julia Storbeck	2196640
	09/17/2020			09/17/2020 17:07	Julia Storbeck	2196646
	09/17/2020			09/17/2020 17:09	Julia Storbeck	2196643
SM 2120 B-2011	09/17/2020			09/17/2020 16:32	Samantha Davila	2196638
SM 2320 B-2011	09/17/2020			09/18/2020 12:49	Dale L. Simmons	2196638
	09/17/2020			09/18/2020 13:57	Dale L. Simmons	2196644
	09/17/2020			09/18/2020 17:32	Dale L. Simmons	2196641
SM 2540 C-2011	09/17/2020			09/18/2020 15:11	Yijie Li	2196638
SM 2540 D-2011	09/17/2020			09/18/2020 15:11	Yijie Li	2196638, 2196641, 2196644
SM 4500 F-C-2011	09/17/2020			09/18/2020 12:38	Dale L. Simmons	2196638
	09/17/2020			09/18/2020 13:57	Dale L. Simmons	2196644
	09/17/2020			09/18/2020 16:01	Dale L. Simmons	2196641
SM 5310 B-2011	09/17/2020			09/24/2020 19:09	Madeline Gruver	2196639
	09/17/2020			09/24/2020 19:21	Madeline Gruver	2196645

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	09/17/2020			09/25/2020 05:33	Madeline Gruver	2196642